

ABSTRACT

To generate a desired gait of a robot 1 such that a permissible range of a predetermined component (a translational floor reaction force horizontal component or the like) of a floor reaction force acting on the mobile robot 1, a gait generating system for a mobile robot creates a provisional motion, which indicates a provisional value of a desired motion, and repeats processing for correcting the provisional motion by using a first dynamic model and a second dynamic model having a dynamic accuracy that is higher than that of the first dynamic model until a predetermined condition is satisfied, thereby obtaining a final corrected motion as the desired motion.

Relative to the provisional motion and a corrected motion at each correction, a difference between a predetermined component of a floor reaction force produced on the second dynamic model and a predetermined component of a floor reaction force produced on the first dynamic model is determined as a floor reaction force error, and a change amount of the error at each correction is also determined. A corrected motion when the change amount has converged to zero is determined as the desired motion.